

green hydrogen

MONITOR

Reviewing Namibia's green hydrogen developments

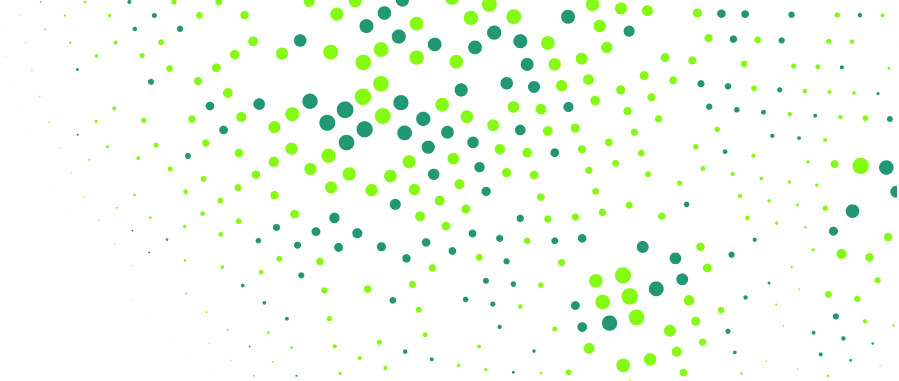


Issue 4

October 2025



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Green Hydrogen Monitor is made possible by the financial support of the Hanns Seidel Foundation (HSF). The views expressed in this publication are those of the IPPR and the individual authors, not necessarily those of the HSF.

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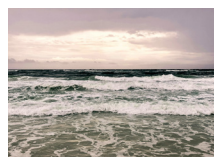
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Cover image: AI-generated with Microsoft Copilot.

Published and Distributed by:

Institute for Public Policy Research (IPPR)

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Incorporated Association Not for Gain Registration
Number 21/2000/468

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Reality Appears To Be Setting In

And it would be about time, too.

The hype seems to be well and truly slowing down around green hydrogen as 2025 has arguably become the year of taking stock in sober and grounded tones.

And not just in Namibia.

Globally there seems to be a sense of a more reserved approach as knowledge and understanding deepens of nascent and potential green hydrogen economic landscape futures.

Euphoric optimism has definitely muted.

In Namibia it is widely perceived that the Nandi-Ndaitwah administration, despite presidential rhetoric and ribbon-cutting over the last few months, is probably not all that keen on green hydrogen.

There are hints that point to this: The proposed downgrading of the presidential arm that has been at the forefront of promoting Namibia as a future African and global green hydrogen hub, the Namibia Investment Promotion and Development Board (NIPDB); the recent jumping-ship-to-industry of James Mnyupe, who headed the Namibia Green Hydrogen Programme since inception and who has been the face of Namibia's green hydrogen diplomacy.

As for signs of a reality orientation, look no further than RWE's withdrawal from its MoU with Hyphen and the very recent announcement of the disposal of its founding stake in Cleanergy by the O&L group.

And that's just the big news of September-October 2025.

As 2025 draws to a close, it seems appropriate to exploit this reality-based orientation and to cast a spotlight over some of the issues that should continue to critically seize discussion and engagement of what Namibia's potential green hydrogen futures could mean.

In this issue, our two feature articles continue to unpack the issue of youth and skills: First, IPPR research associate Rosevitha Ndumbu asks whether the country is or

will be in a position to deliver the skills and capacities required for this highly specialised sector; second, Jonathan Ortmann, chairperson of the Youth for Green Hydrogen Alumni Group surfaces the optimisms, perceptions and frustrations of young people who are trying to establish themselves as green hydrogen professionals. These perspectives are very telling.

We also take a look at what a recent report says about how the green hydrogen operations could impact the water demand and supply situation in the southwest of the country. It paints a precautionary picture.

To end it all, the IPPR Executive Director Graham Hopwood shares some observations about the Global African Hydrogen Summit that took place in Windhoek in mid-September. The event was billed as the big green hydrogen business festival of 2025.

And Hopwood notes: "While the inaugural 2024 edition was all about high hopes for a 'transformative' industry and stoking the green-hydrogen hype, this year's summit was a more sober affair."

That's why he also argues that we've probably hit a reality-check point.

Green Hydrogen Monitor was started in early 2024 because we wanted to cut through the hype and spin in order to stimulate and inform a more reality-grounded and evidence-based and guided public policy focused discourse (as far as that is possible in an emergent field). It would appear that we are nearing the point where such reality-based discussions might actually meaningfully unfold.

We can but hope.

And we hope you enjoy this edition and encourage your comments and feedback.

Frederico Links, Editor / Project Coordinator, Green Hydrogen Monitor Project

Will We Have The Skills?



Source: Microsoft Copilot

• ROSEVITHA NDUMBU

Namibia as a country has become synonymous with the emerging green hydrogen (GH) economy and currently, this national ambition is viewed as more than an energy transition but rather a profound strategy for socioeconomic development and broad-based job creation. However, turning this vast potential into sustainable reality is critically dependent on one factor and that is whether Namibia can successfully develop and mobilise a locally skilled and capable workforce.

A comprehensive assessment, 'Skills Needs and Gap Analysis in Namibia's Power-to-X (PtX) Sector', conducted by the International PtX Hub in collaboration with different institutions like the Namibia University of Science and Technology (NUST), concludes that while the foundational skills exist, a strategic, country-wide effort is required to bridge the gap between conventional trades and the sophisticated demands of the green hydrogen value chain.

PROJECTED SKILLS LANDSCAPE

The green hydrogen economy offers diverse job opportunities across the entire value chain, encompassing renewable energy production, hydrogen handling, storage, transport, and end-use applications, including further processing into chemicals and green iron and steel.

The lifecycle of these projects involves distinct phases commencing from planning and design, manufacturing, trans-

portation, construction and installation, as well as operation and maintenance, which all require specific expertise. As the industry evolves over the next decade, the landscape could be dominated by large-scale construction projects building renewable power infrastructure, industrial plants, and hydrogen transport systems.

Workforce demand during the initial phases of these projects is concentrated in [three main occupational groups](#):

- 1. Construction Workers:** Which are expected to account for the largest share of the workforce at 45%, these roles generally require no formal qualification or qualifications up to NQF Level 2 (e.g. labourers, earthmoving plant operators, concreters etc.). Their roles are crucial in building the massive renewable power plants, industrial facilities, and storage infrastructure needed for the industry to operate.
- 2. Technicians and Artisans:** Which account for about 16% of the workforce and are essential for the practical implementation and operation of the systems, performing hands-on tasks, equipment maintenance, and system monitoring which typically require NQF Levels 2-4. Their base skills in existing trades like electrical, plumbing, pipe fitting, and solar installation provide a solid foundation for the industry but they require a supplementary, green hydrogen focused specific skillset.
- 3. Engineers:** Comprising around 14% of the roles, professionals such as electrical, mechanical, civil, chemical, and industrial engineers are critical for project planning, detailed design, research and development, and high-level operation and maintenance.>

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The highest volume of jobs (45% in construction) is required in the short term (the next 10 years), but the existing education and training system is geared toward a slower, long-term build-up of high-level skills (engineers and highly-qualified technicians).



Source: Microsoft Copilot

THE NATIONAL RESPONSE: INITIATIVES IN EDUCATION AND TRAINING

Namibia has initiated numerous capacity and skills development programs, usually involving government, academic institutions, vocational centres, and global partners in an effort to prepare for a green economy.

The Namibia University of Science and Technology (NUST) is leading efforts in GH education through various initiatives. One such project is the [IGNITE Green Hydrogen Project](#), through which NUST, as the lead organisation of the 24-month European Union-funded project, to the tune of €2 million, aims to upskill 300 unemployed TVET graduates, train 40 vocational trainers to a Level 6 certification, and review and upgrade existing qualifications to align with industry needs.

The institution further houses the Namibia Energy Institute (NEI), offers a Master of Sustainable Energy Systems and a research-based Master in Natural and Applied Sciences focusing on green hydrogen production, storage, and application research components. Additionally, the Lüderitz Southern Campus is being developed into a Science and Technology Park focused on green hydrogen innovation.

The University of Namibia (UNAM) seems to be focusing more on advanced research and capacity building through the [Namibia Green Hydrogen Research Institute](#) which functions as a hub for research, development, training, and innovation, equipped with state-of-the-art laboratories.

The institute also collaborates with Germany's Federal Institute for Materials Research and Testing (BAM) to facilitate practical exposure for students and staff on critical topics like hydrogen safety.

Furthermore, the university has included a newly developed green hydrogen and synthetic fuels stream within its Master of Science in Renewable Energy.

Another key organization is the [Namibia Training Authority \(NTA\)](#) which is aligning vocational training with the transition through the technical TVET project supported by GIZ. The project aims to revise TVET curricula to align with the green

transition and job market needs and to develop a national policy for micro-credentials to offer flexible, industry-relevant training while creating at least five new competency standards for green energy registered under the NQF.

We also have the [Youth for Green Hydrogen \(Y4H2\) Scholarship Programme](#), funded by the German government and implemented by SASSCAL which targets unemployed graduates and youths seeking vocational training in trades like welding, plumbing, and solar installation. The Deputy Head of Mission of the German Embassy in Namibia, Florian Seitz, at the launch event for the 3rd call for applications for the Scholarship Programme in Gibeon earlier in 2025 stated in his remarks that over 150 Namibian youth have benefited from the green [hydrogen-related scholarship scheme](#).

SYSTEMIC GAPS AND EDUCATIONAL BARRIERS

While Namibia's existing higher education system provides a moderate foundation, the most immediate challenge encountered is the mismatch between demand and supply.

The highest volume of jobs (45% in construction) is required in the short term (the next 10 years), but the existing education and training system is geared toward a slower, long-term build-up of high-level skills (engineers and highly-qualified technicians).

Furthermore, a major gap lies in integrating specific green hydrogen knowledge into current academic curricula, especially in relation to engineering disciplines like electrical, process, and chemical engineering. Engineers require supplemental knowledge in areas such as the electrics of electrolyser systems, hydrogen compression and transportation mechanics, and the chemical engineering of green ammonia production. Systemic barriers in higher education include a shortage of lecturers with relevant subject specialisation and industry expertise, inadequate laboratory equipment and challenges in securing necessary Work-Integrated Learning (WIL) placements for students.>



Source: Microsoft Copilot

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A non-technical gap also exists as professionals in fields like law, finance, and environmental management require supplementary green hydrogen-specific training to handle regulations, contracts, and lifecycle assessments relevant to the new sector.

In the TVET sector, relevant training programmes (e.g. general electrical training and solar installation) exist, but they require substantial enhancement to meet the specialised needs of the green hydrogen sector. Artisans often need to achieve NQF Levels 4 or 5 to demonstrate the mastery required for complex green energy installations, however, vocational training in Namibia frequently only stops at Level 3.

Critically, there is an identified lack of industry participation in apprenticeship programmes as they are not mandatory and a significant educational gap exists between TVET Level 4 and university entry at Level 6, hindering career progression. A non-technical gap also exists as professionals in fields like law, finance, and environmental management require supplementary green hydrogen-specific training to handle regulations, contracts, and lifecycle assessments relevant to the new sector.

Safety and compliance personnel also need highly specialised training in hydrogen safety standards, given the inherent risks of flammability and material embrittlement.

OTHER RELEVANT PROGRAMMES

Apart from the initiatives mentioned above, there are other major green hydrogen developers that have integrated skills development into their plans, reflecting a commitment to local workforce creation.

One such organisation is [Hyphen Hydrogen Energy](#), which launched the Green Hydrogen Skills Census in September 2025 to map existing national skills against the project's construction and operational workforce needs, feeding participants into a job-seeker database.

Hyphen is also a consortium member in the NUST-led IG-NITE Green Hydrogen Project. Another company is [Cleanergy Solutions Namibia](#), who is leading the development of a green hydrogen production plant at Walvis Bay. The hydrogen production plant generates off-grid, pure green hydrogen and includes a public refueling station, a dual fuel workshop, and an H2 Academy, and the company is

busy partnering with various organisations, vocational and academic included.

RECOMMENDATIONS

To bridge the gaps identified, Namibia must focus on structural enhancements based on professional recommendations through:

1. Upskilling academic and vocational staff through industry initiatives and workshops is vital and so is the establishment of the proposed Faculty of TVET at NUST for developing high-level trainers and bridging the gap between NQF Level 4 and Level 6 qualifications.
2. While industry commitment is evident, a key observation is that the sector is often discussed using overly technical language, giving the impression that it is exclusively the domain of engineers. However, the sector requires professionals across law, logistics, finance, and environmental management. Therefore, specialised short courses are needed to supplement the knowledge of non-engineering professionals.
3. There is also a need to foster entrepreneurship through creating incubation and acceleration programmes tailored for aspiring green hydrogen entrepreneurs to support them in accessing funding and technology.
4. Lastly, creating specialised training centres with state-of-the-art infrastructure is necessary to provide hands-on training and research activities.

Finally, in order to translate Namibia's potential into lasting national prosperity, a decisive and integrated strategy focused on skills and inclusion is essential and the success of this ambitious undertaking rests not only on mastering the technical complexities but on ensuring that the green energy of the future is powered by a skilled, respected, and inclusively developed Namibian workforce.■

*Rosevitha Ndumbu is an IPPR research associate.

Unprepared For The Energy Transition

Namibia's state-provided basic education sector will not serve as a foundation for the skills needed to unlock true widespread benefit unless much needed reform is implemented and accelerated.

• FREDERICO LINKS

Parents, policy-makers and prospective employers have all lamented the shortcomings of Namibia's basic education over the years.

The tertiary education sector too has come in for considerable criticism. It remains clear that the provision of quality education continues to be a challenge for the Namibian government 35 years into nationhood.

What this means for the optimal development of a sector, such as the green hydrogen sector, in need of a cohort of highly qualified, specialised and technologically proficient workers, is that the country's education system will not deliver. The entire economic ecosystem could be undercut by a lack of consistent supply in both quality and quantity of skilled employees. This could have the knock-on effect of limiting potential investments in Namibian projects and businesses throughout the value chain.

And if the state is averse to opening the borders to skilled and expert expats in sizable numbers, as appears to be the stance, then sectors such as green hydrogen might never reach their full potential.

It isn't as if the Namibian government isn't aware of all this ... it is, but it is not actually engaging in the necessary root-and-branch reforms of the entire state-funded education sector.

Instead, it is left up to economic sector stakeholders, such as those invested in the emergent green hydrogen ecosystem, to come up with upskilling and scholarship schemes to plug the considerable shortfalls in proficiencies long-evident among Namibian school-leavers.

The issues are clear and have been for a long time.

IN ITS OWN WORDS

While skills assessments of the emergent green hydrogen sector have been conducted over recent years and some are still ongoing (Hyphen has initiated its own skills census in September 2025), the aims of these initiatives mostly are to establish what industry stakeholders need to do to make up for the considerable shortcomings of Namibia's basic education system, through short-courses, short-term vocational upskilling initiatives and bursary schemes.

These types of interventions will unfortunately never overcome the permanent effects of the significant weaknesses in science, technology, engineering and mathematics (STEM) related proficiencies among school-leavers and job seekers. Recent assessments of the impact of weak foundations in STEM related fields on specific high skill and expertise sectors suggest that the basic education system is and will become a significant limiting factor in the green hydrogen economy. In late 2022 the Namibia 4IR Task Force, set up by then-President Hage Geingob, published its final report, titled ['4IR as an Enabler of Green and Inclusive Industrialisation'](#), which also captured an assessment of the state of science, technology, engineering and mathematics (STEM) education in the country.

The report reads: "Education is a central and prerequisite ingredient for the 4IR. The automation and adoption of advanced digital technologies in all parts of society and the

economy is already creating pressures to develop educational offerings in complex fields, including artificial intelligence, advanced robotics, biotechnology, new materials and autonomous vehicles. The debates around the type of knowledge and skills that will be needed in the future are also rich in the existing literature, because they highlight the importance of subjects such as science, technology, engineering, the arts and mathematics (STEAM) and ICT skills, as well as soft skills related to problem-solving, collaborative working, together with critical and creative thinking."

The assessment found: "Educational statistics for Namibia in comparison with other countries indicate the critical importance of investing in education if Namibia seeks to reap the benefits of 4IR. Although Namibia does not score lowest in the region for investment and enrolment into tertiary education, it does score lowest for ICT graduates, which are essential for 4IR. This is corroborated by the findings that the quality of mathematics and science education are below average. Availability of scientists, technologists and engineers as well as availability of advanced digital skills are lowest among the African countries assessed."

The report notes: "Therefore, an education reform across all layers is necessary to provide for the future of work and the 4IR, from basic education to tertiary education and lifelong learning. There are inadequate opportunities for upskilling and reskilling of unemployed youth."

The Namibia [AI Readiness Assessment report of 2024](#) captures the same observations about the state of basic education and specifically spotlights gender disparities in STEM performance.

The report states that "gender disparities in STEM performance are evident, with boys generally outperforming girls in these subjects".

The report further reads: "Despite efforts to promote gender equality in education, girls still face challenges such as high dropout rates as they progress to senior secondary levels, gender bias in the classroom, and the way subjects are time-tabled, which discourages them from pursuing further studies in science. This underperformance is also linked to cultural stereotypes, historical factors, and socio-economic constraints".

These gender disparities translate to many girls and young women being unable to enrol in science related fields at tertiary level, and thus never gaining the skills and expertise necessary to access potentially lucrative opportunities in such sectors as green hydrogen once they've graduated.

CLEARER PICTURE

Against this backdrop, the skills picture, and thus what educational interventions are required at all levels to achieve optimal participation for interested Namibians, present and future, in the green hydrogen economy, should become clearer in the short to medium term.

This is because the Hyphen skills census and other skills assessment initiatives underway should once again shed important light on what most know the state of play is on the available skills landscape.

It should be noted that there have been numerous education sector and STEM proficiency assessments over the last two decades and in recent years (not specifically related to green hydrogen, but also in relation to the needs of other specialist, expertise intensive sectors) and yet little has changed in the basic education sector, despite political rhetoric over the years to drastically improve things.

That said, the current skills discussions should once again be embraced as an opportunity to tangibly tackle all that plagues the basic education and vocational skills provision sectors. ■

Youth Perspectives on **Namibia's Green Hydrogen Future** – Cautious Hope in a Changing Energy Landscape



Source: Youth for Green Hydrogen (Y4GH2) Alumni Group

• JONATHAN M. ORTMANN

As Namibia moves forward with its ambition to build a world-class green hydrogen industry, one group stands ready to shape its course: the Youth for Green Hydrogen (Y4GH2) Alumni Group.

Formed from over 180 Namibian graduates and trainees who benefited from the Namibia-Germany Joint Communiqué of Intent scholarship initiative, the DAAD, and other funders. Together, they represent a new generation of technically skilled professionals determined to play a meaningful role in Namibia's clean energy transition.

Yet beneath the technical competence lies a more complex reality. It is one marked by cautious optimism, pointed concerns about exclusion, and a growing awareness that Namibia's hydrogen journey is as much about political will and inclusive governance as it is about renewable energy technology.

FROM BENEFICIARIES TO BUILDERS

The Y4GH2 Alumni Group was founded on a simple but powerful premise: Youth capacity-building must translate into real participation, innovation, and leadership. Operating on three pillars of research, entrepreneurship, and skills development,

the group has organised portfolios focused on policy development, TVET engagement, and public outreach.

The Y4GH2 Alumni Group is currently in the process of securing a Memorandum of Understanding (MOU) with the Namibia Green Hydrogen Programme (NGH2P). This strategic partnership seeks to strengthen collaboration, streamline support and ensure harmonised contributions towards Namibia's growing green hydrogen sector.

On 15 October 2025, the alumni group hosted its first webinar, *'Youth in Action: Stories from the Frontlines of the Green Hydrogen Industry'*, featuring young professionals already active in the sector. Jeremia Petrus from the Daures Green Hydrogen Village Project, Ndapanda Hilma Musole from NCRST, Kundai Tambo from Mondjila Project Advisory, and Yuri Shimwefeleni from the Institutional Partnership on Quality Infrastructure shared practical lessons from the field. The message was clear: Namibia's youth are no longer observers. They are participants.

THE PROMISE AND THE PROBLEM

To understand how young people perceive Namibia's hydrogen ambitions, the alumni group conducted a survey. The responses revealed both excitement and frustration.>



Source: Youth for Green Hydrogen (Y4GH2) Alumni Group

When asked about opportunities, one respondent painted a comprehensive picture: “Green hydrogen in Namibia offers youth new opportunities in jobs, training, and business. Through programmes like Y4H2 and Ignite GH2, young people can gain skills in renewable energy, welding, plumbing, and electrical work. Local institutions such as NIMT Arandis and Walvis Bay VTC provide training, while SASSCAL and NGH2P offer scholarships and project updates. This sector empowers Namibian youth to build careers and businesses in a clean energy future.”

For many, green hydrogen represents more than employment. It represents a better future. But when asked what prevents youth from fully participating, the responses were sobering. Information and access topped the list. One respondent identified the barrier simply as “knowledge”. Another elaborated on youth inclusivity and lack of awareness on information sharing about green hydrogen opportunities. Regional inequality compounds the challenge. Opportunities are concentrated in certain regions while advertisements reach only the privileged. One respondent put the challenge bluntly: “The general understanding of the industry and naysayers, who do not believe in it. And corruption, [when] opportunities flow mostly to those with connections. Those in power uplift their close circles, and this demotivates youth to even try.”

When asked if they were confident that green hydrogen development would benefit all Namibian youth, both urban and rural, not a single respondent expressed strong confidence. When asked if youth voices are being heard in planning and investments, the majority said no. When asked about current projects like Hyphen, Hylron, Cleanergy, and Daures, the most common response was that these projects offer exclusive or limited access for youth.

One respondent captured the core problem: “This sector is very technical. Maybe the government could try to relay the information in a language that will be understood by the masses. I also believe the communities want to be included and addressed and not just informed about proceedings. This is where there is a mismatch.”

REALITY CHECKS AND SHIFTING GROUND

These views emerged during a period of significant transition. In late September 2025, German utility RWE withdrew from the US\$10 billion Hyphen green ammonia project, citing sluggish hydrogen demand in Europe and high development costs. Though Hyphen clarified the agreement had only been a preliminary memorandum of understanding, the decision raised questions about investor confidence¹.

Then, barely a week later, James Mnyupe, the founding head of the Namibia Green Hydrogen Programme, announced his resignation. Under his leadership, the programme secured over €120 million in investments and launched major projects.² His departure left many youth uncertain about the programme’s future momentum.

Young Namibians demonstrated sophisticated understanding of these developments, as one response noted: “Strong political commitment, clear policy frameworks, and transparent regulations can attract investors and ensure sustainable growth. However, instability or political interference may delay projects and reduce investor confidence.”

Another put it more starkly: “The change in government hinders progress because there is no continuity. Each government has its own focus thus affecting the [work] done by the previous government.”

WHAT YOUTH ARE CALLING FOR

When asked what qualities should guide the next phase of leadership, respondents were clear. They want continuity in youth-focused training and scholarships. They demand greater inclusion of communities and local authorities in decision-making. They insist on transparency in project selection and investment. They need clearer job creation strategies. They advocate for more focus on small-scale and local hydrogen projects that serve domestic needs.

One respondent captured the collaborative spirit needed: “Sectors should work together and not in silos, collaboration will breed progress and success.” >

¹ Shipena J. No offtake deal existed with RWE – Hyphen. Windhoek Observer / The Observer. Published 2025. Accessed [10 October 2025]. <https://www.observer24.com/na/no-offtake-deal-existed-with-rwe-hyphen/>

² Namibia Green Hydrogen Programme. Media Release: The Programme bids farewell to founding head, Mr James Mnyupe. Published 1st October 2025. Accessed [10 October 2025]. <https://gh2namibia.com/media-release-the-programme-bids-farewell-to-founding-head-mr-james-mnyupe/>



Source: Youth for Green Hydrogen (Y4GH2) Alumni Group

Their message to the government and the private sector was direct: “The government and private sector should actively involve youth and local communities through education, training, and entrepreneurship opportunities. Meaningful participation ensures inclusivity, builds public trust, and creates a sense of ownership over national projects.” Others emphasised fundamentals. Information must be shared with youth. Leaders must be transparent and open to listening. Allowing everyone to participate would benefit the country. Accurate information must be consistently reported. The call is for genuine partnership. Youth are not asking to be catered to. They are offering to co-build. But that offer requires reciprocity.

A GENERATION READY

The alignment between youth insights and national realities is striking. Namibian youth understand that the hydrogen industry is not immune to market shifts or political pressures. Yet their message is grounded and forward-looking. Success will depend not on rhetoric but on continuity, communication, and inclusion.

The Y4GH2 Alumni Group’s proposal for a Youth Research Hub embodies this vision, coordinating youth-led technical studies, policy papers, and socio-economic analyses that can directly support national decision-making. With over 80% of members holding postgraduate or technical qualifications, the capacity exists. It only needs structure and support. Former Mines and Energy Minister Tom Alweendo’s recent call for Namibia to focus first on domestic hydrogen applications in mining, ports, and energy storage before scaling up for export resonates with this generation. They see the wis-

dom in building local capacity before chasing international markets.³

FROM PROMISE TO PRACTICE

Namibia’s green hydrogen ambitions present a rare opportunity to industrialise, diversify, and modernise the nation’s economy. For the Youth for Green Hydrogen Alumni Group, this is not a passing project. It is a long-term commitment to research, innovation, and national development.

Yet the survey reveals a troubling gap. While young Namibians are being trained, they remain excluded from decision-making. While billions are committed to mega-projects, information remains opaque. While rhetoric celebrates youth empowerment, structural barriers persist unchallenged.

To realise this vision, Namibia must ensure the hydrogen transition becomes not just an export story, but a Namibian story, powered by the energy, integrity, and ingenuity of its young people. This requires transparent governance, equitable distribution of opportunities across regions, meaningful inclusion in policy discussions, clear pathways to employment, sustained political commitment, and honest communication that treats citizens as partners.

The youth are ready. The question is whether Namibia’s institutions are ready to meet them where they are.

If the answer is yes, Namibia’s green hydrogen future will be built not just on solar panels and electrolyzers, but on trust, transparency, and the transformative power of a generation determined to turn promise into practice.■

** Jonathan Ortmann is the chairperson of the Y4GH2 Alumni Group.*

³ Shipena J. ‘It’s time to wake up’ on hydrogen dream — Alweendo. Windhoek Observer / The Observer. Published 2025. Accessed [15 October 2025]. <https://www.observer24.com.na/its-time-to-wake-up-on-hydrogen-dream-alweendo/>

Whither The Water Woes

A new report underscores the water realities that further challenge assumptions about the ease of unlocking any green hydrogen futures in Namibia

By Frederico Links

Namibia is a dry country that never has enough water.

With groundwater extraction continuously increasing and rainfall patterns changing and becoming more erratic, the question of water is one that is always top-of-mind nationally, at some point or other.

Add into this mix the proposed introduction of water intensive activities, such as green hydrogen production, and the issue becomes a glowing socio-economic concern.

And that's exactly what is happening.

It has long been clear that Namibia does not have enough water to power its green hydrogen dreams and ambitions.

Back in October 2021 already, Namibian energy and environmental consultant Detlof von Oertzen, in [a report published](#) by the Konrad Adenauer Stiftung (KAS), had raised the issue of water-use in green hydrogen production and what it could mean for Namibia.

Von Oertzen noted: "Water is an essential input for hydrogen production by electrolysis. Namibia is a water-scarce country, having an overall water risk classification of 'extreme'. This implies that both feedwater and process water are not available in any significant quantities, certainly not in quantities that would be adequate to meet production requirements for green hydrogen and the processing of its derivatives."

Enter desalination, with Von Oertzen cautioning: "One option that could provide input water is the desalination of sea water drawn from the Atlantic Ocean. There are no major technical obstacles to desalination to deliver potable and process water. Present-day improvements and refinements centre on reducing the overall energy requirements and cost of individual process elements and enhancing the plant longevity. However, desalinated water remains considerably more costly than traditional water supplies for industrial and chemical uses."

Even so, the [Namibia Green Hydrogen and Derivatives Strategy](#), of November 2022, positions "sustainable and low-cost water supply through desalination" as the way to go.

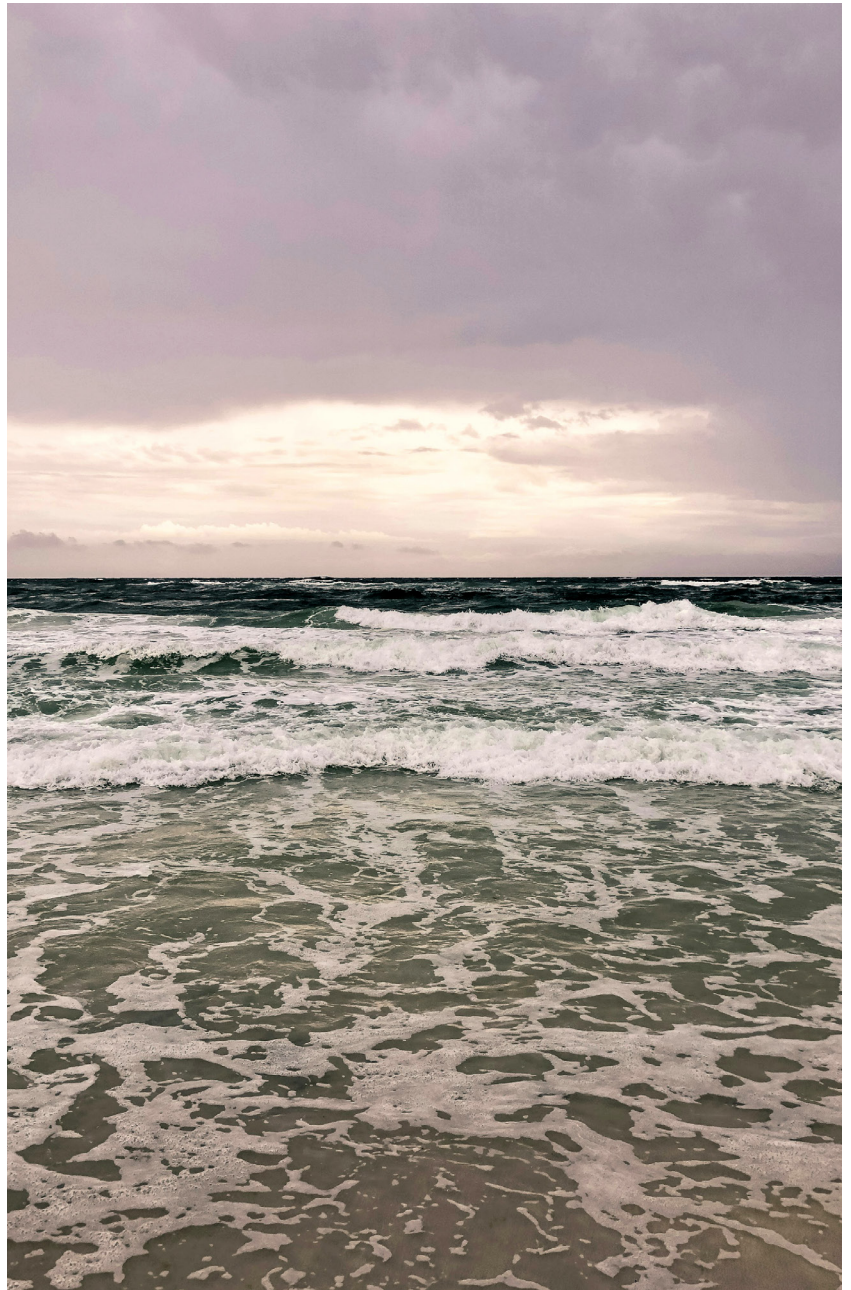


Photo by [Kyle Reed](#) on [Unsplash](#)

Desalination is proposed to water Namibia's green hydrogen economy, but implementation already appears way behind where it should be.

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And that's the way the Namibian government has been going, with talk of desalination plants ramping up considerably over the last two years. In fact, the [Swapo Party Manifesto Implementation Plan](#) (SMIP) captures the development of desalination plants as a critical economic enabler, noting that in order to achieve the plan's outcomes there needs to be an acceleration of "the implementation of the desalination plants in the Erongo Region and the northern region".>

Water is an essential input for hydrogen production by electrolysis. Namibia is a water-scarce country, having an overall water risk classification of 'extreme.'

- Detlof von Oertzen



Photo: Facebook

Lüderitz Port

There is little in the way of desalination infrastructure development actually happening presently, despite the SMIP stating that implementation should commence immediately between 2025 - 2027. So far the only real talk concerns the erection of another desalination plant in the Erongo Region. But it's still just talk.

As for desalination further south, where by-far the largest proposed green hydrogen project, the Hyphen Hydrogen project, is proposed for the ||Kharas Region, desalination plant construction is probably years away as Hyphen is still investigating the viability of its project.

Which brings into focus the latest expert perspectives on water supply and use in the far southern parts of the country.

DEMAND SCENARIOS

An [August 2025 report](#) by the German government funded GreenH2 Namibia project proposes water demand and supply scenarios around the Hyphen area of operation.

The scenarios make for sobering reading.

The report raises serious questions about water-supply assumptions and planning in the proposed Hyphen operation area.

With regard to water supply to Lüderitz, the re-

port states: "Seawater desalination is the only long-term solution for Lüderitz, and a modular plant design is recommended to match future growth while avoiding premature oversizing. Hyphen has committed to covering its own industrial demand and the domestic needs of its workforce through its own desalination plant. However, the extent to which workers' families relocate, and the pace of growth in non-hydrogen industries, could generate additional burdens for the town of Lüderitz."

The report notes: "If all future green hydrogen projects in the SCDI cover their own industrial needs and those of their workers, and Lüderitz no longer relies on the Koichab Pan aquifer, a future desalination plant would need to cover the remaining shortfall under the highest demand scenario."

And it further finds: "Lüderitz faces a significant shortfall of up to 1.61 million m³/year (4,400 m³/day) by 2029, if withdrawals from the Koichab Pan aquifer continue in the short-term. Interim solutions, such as containerized desalination units and water-saving measures, will therefore be essential. If, however, Lüderitz reduces withdrawals from the Koichab Pan aquifer wellfields to free up capacity for Aus, the gaps could be even larger.>



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- Report



Photo by [David Lartey](#) on [Unsplash](#)



The most likely solution for Aus – tapping into the Koichab Pan wellfield currently utilized by Lüderitz – depends on how Lüderitz proceeds with its water infrastructure (if they decrease their withdrawal from the aquifer or become completely independent of it) and on the economic feasibility of transporting water from the wellfield to the settlement of Aus's distribution network

- Detlof von Oertzen

With regard to Aus, the report states: "Current water supply in Aus is already overcapacity and unstable. Immediate solutions are needed to ensure adequate water supply to the settlement's population, such as addressing the significant distribution-side water losses. The situation will become even more dire if a small percentage of the Hyphen hydrogen workforce settles in Aus (with or without their families) to be part of the project's construction phase starting in 2027."

It further notes: "The most likely solution for Aus – tapping into the Koichab Pan wellfield currently utilized by Lüderitz – depends on how Lüderitz proceeds with its water infrastructure (if they decrease their withdrawal from the aquifer or become completely independent of it) and on the economic feasibility of transporting water from the wellfield to the settlement of Aus's distribution network."

It also adds: "Similar to Lüderitz, the scale of relocation to Aus depends on multiple uncertain factors – including availability of housing, infrastructure, and indirect job creation – but even small percentages of workforce relocation can strain Aus's already fragile supply."

Clearly, as the report suggests, water supply and cost questions are headache-level considera-

tions, and should be approached as such.

The report authors, as is noted earlier, propose desalination plants of "a modular plant design" to overcome this headache.

FULL CIRCLE CONCERNS

This elevates the question of cost and affordability, specifically: Will desalination really be "sustainable and low-cost", as the Namibia Green Hydrogen Strategy proposes?

Experts like Detlof von Oertzen don't appear to think so, as earlier shown.

Von Oertzen further notes in his 2021 report for KAS that: "The European Union's Hydrogen Strategy has a hydrogen production target of 10 MtH₂ by 2030. Therefore, to meet this target using demineralised sea water necessitates up to 10 desalination plants of the capacity of the [existing] Erongo plant. This, amongst other arguments, illustrates that pronouncements that Namibia is becoming "a green hydrogen hub for Africa", seem overly optimistic."

That said, one thing that the experts all appear to agree on is that Namibia's water situation is an urgent emergency, and that if the country is going to do something about it then it should have started doing it already. ■

Green H₂ in the News

RWE withdraws from Hyphen MoU ...

In what has been seen as a blow to Namibia and Hyphen Hydrogen's ambitions, at the end of September 2025 German electricity utility RWE withdrew from an MoU that had become an important marker of the economic viability of Namibia's largest proposed green hydrogen project. It was internationally reported that the RWE withdrawal was due to "demand for hydrogen and hydrogen derivatives such as ammonia developing slower than expected in Europe".

The RWE move was framed as "a blow to the southern African nation's ambitions to become a major hydrogen hub". The RWE withdrawal from the MoU comes against the backdrop of green hydrogen no longer being seen as economically viable as initially thought a few years ago when the German company and Hyphen signed the MoU in 2022.

Reuters reported that "RWE signed a preliminary non-binding memorandum of understanding with Hyphen in 2022 to take around 300,000 tonnes a year of ammonia - a compound used mostly to make fertiliser - from 2027".

A Hyphen spokesperson downplayed the RWE withdrawal, noting: "There was no purchase agreement in place. We only had a memorandum of understanding to explore potential off-take. For a project of this size, you sign MOUs or non-disclosure agreements to guide discussions and protect commercial information. But there was no purchase agreement". (Reuters & Windhoek Observer)



Photo: The Namibian

Sven Thieme

... Followed by O&L from Cleanergy ...

Shortly on the heels of RWE's withdrawal from the Hyphen MoU followed another high-profile corporate withdrawal from the green hydrogen landscape.

In mid-October 2025, Namibia's Olthaver & List (O&L) Group sold its stake in the Cleanergy project, which it had co-founded with Belgian firm [CMB.TECH](#) in 2022, to its Belgian partner.

The O&L withdrawal was reported to be in order to allow "O&L to focus on strengthening its core operations and pursuing new opportunities under its Vision 2029 strategy".

The O&L relinquishing of its Cleanergy stake came in the wake of the project's September 2025 unveiling of its green hydrogen production and refueling facility in the Erongo Region.

The O&L withdrawal makes CMB.TECH the sole shareholder in the Cleanergy project.

Cleanergy Solutions Namibia will generate renewable fuel primarily for the shipping industry.

The O&L stake has officially been purchased by H2 Infra NV, a company owned by CMB.TECH.

(Windhoek Observer & New Era)



Photo: Facebook

James Mnyupe

... And the departure of Mnyupe

Around the time that the RWE withdrawal from the Hyphen MoU was announced, in another shock to the green hydrogen system, it was announced that James Mnyupe, the head of the government's Namibia Green Hydrogen Programme, was also officially departing the scene.

While Mnyupe's departure appeared to be on the cards since relinquishing his economic advisory role in the Namibian Presidency in May 2025, it still rippled significantly across the green hydrogen interest landscape.

Mnyupe has been Namibia's Green Hydrogen Commissioner since 2021, and the presidency's lead since 2020, and he was considered the government's and sector's chief promoter and spokesperson, both nationally and internationally.

Mnyupe's relinquishing of his government role takes effect on 1 November 2025.

In an apparent revolving-door move, Mnyupe is set to join the private sector, taking up the role of senior vice president for sub-Saharan Africa at thyssenkrupp Uhde, which also manufactures industrial plants for the green hydrogen sector. Mnyupe's high profile departure has been downplayed by the ruling party, which was quick to paint the move as nothing special and not a sign of the party and the state's cooling on green hydrogen.

However, reports around the time of Mnyupe's announcement indicate that part of the reason for his departure from government was likely a lack of political support for Namibia's green hydrogen ambitions in the new administration.

(The Namibian, Windhoek Observer & Confidante)



Source: IPPR

From Hype To Hard Realities

Graham Hopwood looks back at the Global African Hydrogen Summit that took place in Windhoek (9–11 September) and the part that civil society played at what was largely a corporate event.

The Global African Hydrogen Summit of 2025 came at a difficult time for the emergent hydrogen sector.

While the inaugural 2024 edition was all about high hopes for a 'transformative' industry and stoking the green-hydrogen hype, this year's summit was a more sober affair. It's understandable why this was the case: high production costs and weak demand have forced a reality check that

has seen projects globally either cancelled or delayed. Growing uncertainty around infrastructure and regulatory frameworks is reinforcing the sense that the hype phase has passed. At the Mercure Conference Centre in mid-September, one unanswered question hung in the air: Where will the money come from? Much of this doubt concerns the bankability of 'mega projects'; for the moment the more modest initiatives look more viable and could still scale up if Europe rediscovers its appetite for green hydrogen and green ammonia.

While these worries may have been muttered in the corridors, they were not aired on the main stage at such a corporate-focussed conference with the hyperbolic theme: 'Ambition in Action: Fuelling Africa's Green Industrial Revolution'.

These events are essentially money-making exercises. A summit pass cost US\$1 500 (N\$ 26 000) and organisers claimed 1,500 delegates registered although it only felt like there were a few hundred in the hall or milling around the expo area.

CIVIL SOCIETY INPUT

Such gatherings are not an easy fit for civil society actors – the range of community groups, traditional associations, environmental NGOs, and activists who have engaged, often critically, with Namibia's green hydrogen ambitions over the past three years.>



Source: IPPR



Source: IPPR

In 2024, CSOs were effectively sidelined at the summit – free passes were issued only at the last minute in response to lobbying and negative media headlines. Civil society activists were determined not to be shut out this time, contacting the organisers (DMG Events) early on to discuss not just free passes but also speaker slots on the main stage and civil society-focussed sessions. The outcome was several speaking opportunities and a dedicated masterclass titled ‘People, Power and Participation’. These civil society contributions provided the summit’s only sustained discussion of consultation and consent, transparency and accountability, and environmental risks. Social-justice advocates used the platforms to press for meaningful involvement while voicing fears of continued exclusion based on their experiences to date. ‘Free, prior and informed consent’ was the rallying cry. It’s fair to say that this refrain did not echo through the wider venue. Beyond these sessions, the conference agenda was largely technical and less controversial.>



Source: IPPR



Source: IPPR



Source: IPPR



Source: IPPR

“

Civil society influence at this summit was limited, but it provided a starting point: Airing these issues at a high-profile event does matter. What matters more is turning that visibility into sustained advocacy and on-the-ground organising.

The trouble with the Masterclass and the ‘fair access’ technical session (where a civil-society panel drew roughly 30 interested attendees) was that activists largely ended up speaking to their own – other CSO representatives and sympathisers. Decision-makers, policymakers, and private-sector representatives were mostly absent.

On the main stage, Chloe Brandt (Legal Assistance Centre) and Martha Nangolo (IPPR) ably voiced CSO concerns, but it was hard to tell whether the audience registered the narrative switch to themes of inclusion and accountability.

The sense that this summit was less of a public-relations jamboree hit home in the opening session, when it emerged that Green Hydrogen Commissioner James Mnyupe – often seen as green hydrogen’s chief cheerleader – had a scheduling conflict and was not physically present (with his remarks beamed in from Colombia). It felt like a sign that something was amiss, and his resignation from the Green Hydrogen Programme Office a few weeks later was no great surprise.

Emerging industries need champions, and Mnyupe has undeniably put Namibia on the international green hydrogen map. The moment now seems right for project implementers to take centre stage to tackle the hard graft of turning hype into reality.

But they will still need the support of the central government. And while Minister of

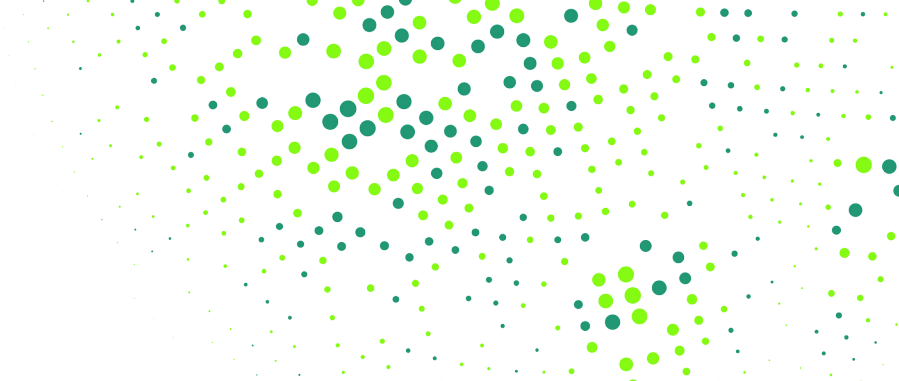
Industries, Mines and Energy Natangwe Lthete did still sound keen in his opening remarks, it’s hard to see other seniors in government urging on developments – especially when upstream petroleum and nuclear opportunities have captured their imaginations.

As the mood shifts toward tougher realities, civil society advocacy may finally gain ground. With the hype dialled down, there is more room to focus on the social-licence side of hydrogen projects – community consultation, land rights, labour and gender impacts, anti-corruption strategies and public oversight of investment flows.

Civil society influence at this summit was limited, but it provided a starting point: Airing these issues at a high-profile event does matter. What matters more is turning that visibility into sustained advocacy and on-the-ground organising.

A 2026 edition of the summit is not a given. Much will depend on whether what we are seeing now is a terminal slowdown or a constructive reset. In the meantime, civil society should stay vigilant and engaged – projects can only achieve enduring success when communities support them and when they have the credibility that transparency provides.■

** Graham Hopwood is the Executive Director of the IPPR. He was a civil society delegate at the Global African Hydrogen Summit.*



Issue 1 June 2024



Issue 2 October 2024

Green Hydrogen and Jobs – Hope or Hype?

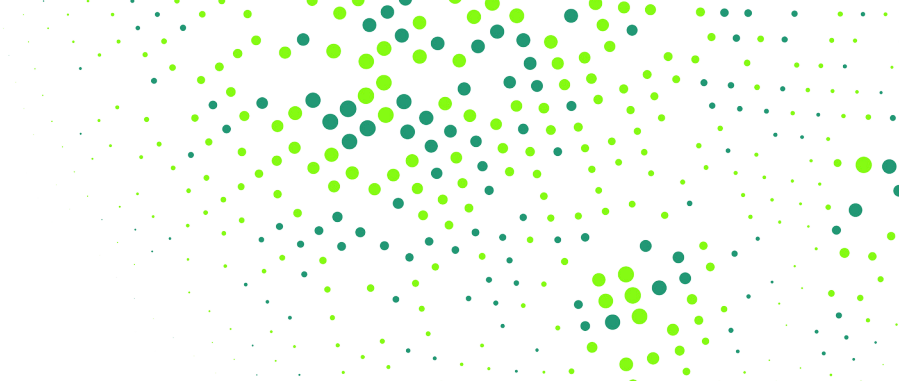


Issue 3 July 2025

Youth and Green Hydrogen - Plans, Promises & Prospects



Previous issues of the Green Hydrogen Monitor can be accessed and downloaded from the IPPR website @ www.ippr.org.na



About the HSF

Present in more than 60 countries world-wide, the Hanns Seidel Foundation (HSF) is a German non-profit organisation promoting democracy, good governance and the rule of law across the African continent. Cooperating with its Namibian partners, such as IPPR, HSF also seeks to contribute to sustainable development by strengthening peace, human security, and environmental protection. The contents of this publication do not necessarily reflect the views and opinions of the HSF.

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The Institute for Public Policy Research (IPPR) is a not-for-profit organisation with a mission to deliver independent, analytical, critical yet constructive research into social, political and economic issues that affect development in Namibia. The IPPR was established in the belief that free and critical debate informed by quality research promotes development.

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Incorporated Association Not for Gain Registration Number 21/2000/468

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